

VAR G1=19/H/ME/ET/N-PR/I-PR/N-BU/I-BU/T-BU

NODE ATTRIBUTES:

HCOUNT IS E2 AT 2
HCOUNT IS E2 AT 4
HCOUNT IS E2 AT 6
HCOUNT IS E2 AT 7
HCOUNT IS E2 AT 9
HCOUNT IS E2 AT 10
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

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(FILE 'HOME' ENTERED AT 13:58:55 ON 09 JAN 2006)

FILE 'REGISTRY' ENTERED AT 13:59:05 ON 09 JAN 2006

L1 STR
L2 2 S L1
L3 141 S L1 FUL

FILE 'STNGUIDE' ENTERED AT 14:13:11 ON 09 JAN 2006

FILE 'REGISTRY' ENTERED AT 14:17:15 ON 09 JAN 2006

L4 STR L1
L5 24 SEARCH L4 SUB=L3 FUL

FILE 'CAPLUS' ENTERED AT 14:25:12 ON 09 JAN 2006

L6 9 S L5

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L6 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

1999:572003 Document No. 131:215847 Catalysts for nitration or carboxylation of organic substrates and their use in manufacture of adamantane derivatives. Nakano, Tatsuya; Sakaguchi, Satoshi; Ishii, Yasutaka (Daicel Chemical Industries, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11239730 A2 19990907 Heisei, 30 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-3161 19980109. PRIORITY: JP 1997-4439 19970114; JP 1997-32440 19970217; JP 1997-209430 19970804; JP 1997-353398 19971222.

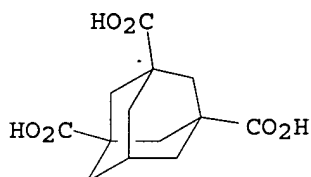
AB The nitration or carboxylation is carried out by using nitrogen oxides and a mixture of CO and O₂ in the presence of imide compds. such as N-hydroxyphthalimide as catalysts, and co-catalysts such as transition metals. The catalysts are used in the nitration or carboxylation of (substituted) adamantane compds. with selective substituent groups to adamantane derivs. which can be easily transformed to chemical stocks useful for pharmaceuticals, agrochems., dyes, solvents, explosives, etc. (no data). Thus, mixing a mixture of 1 mmol adamantane (I), 0.05 mmol N-hydroxyphthalimide and 5 mL AcOH with .apprx.1 L NO gas at 100° for 8 h gave nitroadamantane, adamantanol and acetyloxyadamantane at yields of 30, 17 and 33%, resp., where the conversion of I was 95%.

IT 213274-89-6P

RL: IMF (Industrial manufacture); PREP (Preparation)
(product; imide-type catalysts for nitration or carboxylation of organic substrates and use in manufacture of adamantane derivs.)

RN 213274-89-6 CAPLUS

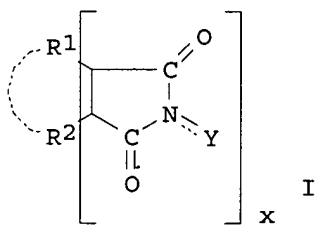
CN Tricyclo[3.3.1.1^{3,7}]decane-1,3,5-tricarboxylic acid (9CI) (CA INDEX NAME)



L6 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

1998:621175 Document No. 129:244916 Preparation of adamantane derivatives. Ishii, Yasutaka; Nakano, Tatsuya; Hirai, Naruhisa (Daicel Chemical Industries, Ltd., Japan). PCT Int. Appl. WO 9840337 A1 19980917, 103 pp. DESIGNATED STATES: W: KR, SG, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1998-JP904 19980305. PRIORITY: JP 1997-56516 19970311; JP 1997-209431 19970804.

GI



AB An adamantane derivative having a functional group such as nitro, amino, hydroxyl, carboxyl, hydroxymethyl or isocyanato is oxidized with oxygen in the presence of an imide compound of general formula I [R1 and R2 each represent hydrogen, halogen, alkyl, aryl or cycloalkyl, or R1 and R2 may be bonded together to form a double bond, or an aromatic or non-aromatic ring;

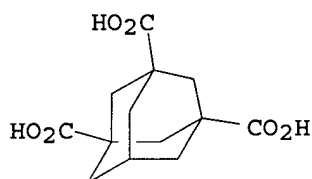
Y represents O or OH; and x represents 1 to 3] (such as N-hydroxyphthalimide) or both of this imide compound and a cocatalyst (such as a transition metal compound). This process can efficiently provide adamantane derivs. having a hydroxyl group in addition to the functional group such as nitro, amino, hydroxyl, carboxyl, hydroxymethyl or isocyanato; such derivs. are useful as monomers. For example, 1-acetylamino-3-adamantanol was prepared in 64% yield by the title process.

IT 213274-89-6P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of adamantane derivs.)

RN 213274-89-6 CAPLUS

CN Tricyclo[3.3.1.1^{3,7}]decane-1,3,5-tricarboxylic acid (9CI) (CA INDEX NAME)



L6 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2006 ACS on STN

1990:216288 Document No. 112:216288 Direct selective acylation of an unactivated carbon-hydrogen bond in a caged hydrocarbon. Approach to systems for carbon-hydrogen bond functionalization that proceed catalytically and selectively at high substrate conversion. Prosser-McCartha, Christina M.; Hill, Craig L. (Dep. Chem., Emory Univ., Atlanta, GA, 30322, USA). Journal of the American Chemical Society, 112(9), 3671-3 (English) 1990. CODEN: JACSAT. ISSN: 0002-7863. OTHER SOURCES: CASREACT 112:216288.

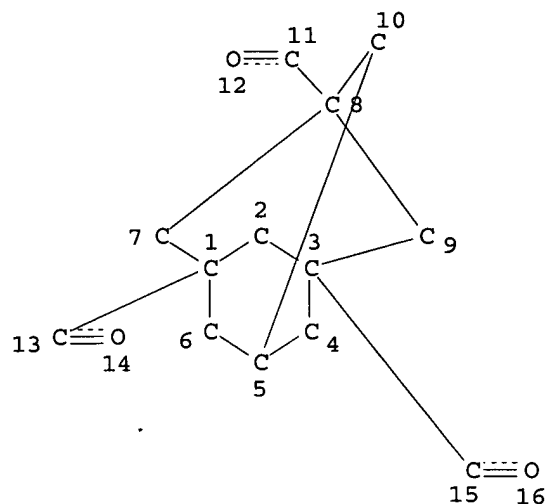
GI For diagram(s), see printed CA Issue.

AB The isopolytungstate, W100324-, catalyzes the photochem. functionalization of the strained caged hydrocarbon heptacyclo[6.6.0.0^{2,6}.0^{3,13}.0^{4,11}.0^{5,9}.0^{10,14}]tetradecane (I; R = H) (II) under anaerobic conditions to produce the 1-acetyl derivative I (R = COMe), an unprecedented replacement of an unactivated C-H bond with a C-C bond. Several other polyoxometalates of W and Mo are ineffective for this reaction. These acylation processes represent a one-electron oxidation of the carbon atom of II, and a one-electron reduction of the carbon atom of the acetonitrile; the net reaction is a nonredox process. A net redox process also takes place involving oxidation of the solvent (CH₃CN) and reduction of W100324-. The reduced catalyst can be reoxidized by O₂ in the dark. Cycles of W100324- photoredn. followed by reoxidn. can lead to production of the acetyl derivative with selectivities and conversions that are not matched in any other abiol. radical process. Several expts. are in accord with the unprecedented C-C bond forming step being the generation and capture of small quantities of carbanion by the nitrile carbon followed by protonation and hydrolysis to yield I (R = COMe). The products generated upon irradiation of II in the presence of O₂ are also unusual. The major products generated upon irradiation of adamantane under anaerobic conditions are the 1-acetyladamantane, 1,3-diacetyladamantane, and 1,3,5-triacetyladamantane.

IT 126664-86-6P

10/807284

=> d sia l1
L1 HAS NO ANSWERS
L1 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RSPEC I
NUMBER OF NODES IS 16

STEREO ATTRIBUTES: NONE

=> d sia l4
L4 HAS NO ANSWERS
L4 STR

